Psychiatric morbidity in medically ill patients using Spanish version of GMHAT/PC

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Abstract

The study aimed to assess psychiatric morbidity in medically ill patients and to examine the use of GMHAT/PC Spanish version in a general health setting. We recruited patients who were hospitalized at the services of Internal Medicine, Surgery and G/O during a period of 1 month for each service. The diagnosis of a medical illness was supported by specialists in each service. A trained GP conducted a psychiatric assessment of all the participants using GMHAT/PC. The interview was carried out at patients' bedside. Of 455 medically ill patients, 4.8% had a mental illness identified by GMHAT/PC interview. Anxiety, depression and organic disorders were the most frequently identified mental disorders in internal medicine and surgery. Cancer had a significantly higher prevalence of comorbid mental illness. In this study the proportion of medically ill with mental disorders was less compared to other studies. The GMHAT/PC is more close to identifying clinical cases of mental illness and also patients who need help. The GMHAT is more a diagnostic instrument than a screening instrument. Physicians and practitioners can be trained to identify mental illness using computer-assisted tools such as GMHAT/PC. A holistic approach of providing care to such patients may improve their overall outcome and quality of life.

Introduction

The literature shows the relationship between medical illness and mental disorders, specially anxiety and depression (1). Depression is more common in people suffering from physical illnesses than in the general population and there are strong links between depression and cardiovascular disease, hypertension, respiratory illness, cancer, stroke, diabetes and other metabolic disorders (2). Meanwhile, anxiety is more likely to have specific comorbid medical disorders such as angina, mitral valve prolapse, idiopathic cardiomyopathy, labile hypertension, respiratory illnesses, migraine headaches, diabetes mellitus gastrointestinal problems, genitourinary difficulties and thyroid disease (3). Comorbid mental disorders may interfere, aggravate or mimic medical conditions, cause severe impairment of social function, increase disease duration and mortality, decrease subjective quality of life and increase health costs (2, 4, 5).

The relationship between medical and mental illness could be explained by several reasons (1):

1) Somatic symptoms (pain, disability) could cause emotional reactions, even pathological ones
2) The hospitalized patient is isolated of his routines and social network
3) University hospitals has additional stress associated with continuous rotations of students and doctors

The frequency of psychiatrist's disorders in hospitalized patients reported in the literature is around 40% (6, 7). The disorders most frequently reported in hospitalized patients include delirium, dementia, depression, anxiety and alcohol abuse. Cognitive disorders has been reported between 6.9 % and 30% (1, 8).

Depressive disorders have been found between 7.3% and 38% (9, 10). Depression is associated with chronic diseases, more than four medical diagnoses, hospitalization in the internal medicine department, higher hospital class, lack of medical insurance, suffering from severe illness and multiple hospitalization history (2, 9, 11).

Anxiety is described between 7.7% and 24.3% and substance abuse is found in about 14.4% of patients.(4) (10).

There are differences between men and women. One study shows a 60% prevalence of mental disorders among men (alcohol dependency in 26%, delirium or dementia in 10.8%, anxiety disorders in 10.4%, major depression in 7.8% and adaptation disorders in 3%). Among women, the prevalence of mental disorders was 65% (major depression in 23.2%, anxiety disorders in 14.3%, adaptation disorders in 8.4%, dementia in 5.6%, delirium in 3% and alcohol dependency in 2.5%). (5).

Despite the frequency of psychiatrist disorders in hospitalized patients nearly half of cases or even more go unnoticed and not receive adequate treatment, indicating a serious neglect of those diagnosis in general hospitals (5, 6, 11). The lack of recognition of mental health problems has a negative influence on morbidity, mortality, quality of life and unnecessary pharmacological and diagnostic procedures (2).

The previously studies about mental illness and hospitalized patients have some limitations. There have disparate methodologies (i. e., assessment methods, time window, sampling procedures) employed among the studies (3). Most of these studies focused on specific somatic diseases, e.g. asthma, cancer, chronic spinal pain and atherosclerosis, while others focused on certain mental disorders such affective disorders (12). The majority of studies that have determined the prevalence of mental disorders among inpatients have used only self-reported instruments or scales (2). In clinical practice and research in this population is recommended to use standardized structured clinical interview and international diagnostic criteria in order to have more accurate diagnosis and explore a wide range of psychiatrists' disorders (12)

Methods

Sample

The Hernando Moncaleano Perdomo University Hospital is a high complexity centre who receives referrals from the south of Colombia. It has outpatient and inpatient services and has every medical speciality. We recruited patients who were hospitalized at the services of Internal Medicine, Surgery and G/O during a period of 1 month for each service. The diagnosis of a medical illness was supported by specialists in each service. The study was approved by the Hospital ethics committee, and informed consent was taken from all the participants.

Instrument

A trained GP conducted a psychiatric assessment of all the participants using GMHAT/PC. The interview was carried out at patients' bedside.

The GMHAT/PC is a computerized clinical assessment tool developed to assess and identify mental health problems in primary care.

The first screen is for patient information and administration of the program. The assessment program starts with basic instructions giving details of how to use the tool and rate the symptoms. The introductory screens facilitate inputting of descriptive information in the following fields: presenting symptoms, and relevant past, family, and personal problems.

The following screens consist of a series of questions leading to a comprehensive yet quick mental state assessment focusing sequentially on the following symptoms or problems: worries; anxiety and panic attacks; concentration; depressed mood, including suicidal risk; sleep; appetite; eating disorders; hypochondriasis; obsessions and compulsions; phobia; mania/hypomania; thought disorder; psychotic symptoms(delusions and hallucinations); disorientation; memory impairment; alcohol misuse; drug misuse; personality problems; stressors. One question at a time appears from these respective subsections. The questions proceed in clinical order along a tree-branch structure. For each of the major clinical disorders there are one or two screening questions. The interview moves on to the next subsection, if the patient does not have symptoms based on the screening items of a subsection.

At the end of the interview the screen asks to put the interviewer's details and the clinical diagnosis. The screen then proceeds to a menu showing the following items: a) rating scores and computer diagnosis; b) Assessment and c) referral letter.

The main symptom groups on which the rating scores are based are anxiety, depression, concentration, eating disorder, hypochondriasis, phobias, obsessions, mania, psychosis, memory impairment and disorientation. In addition, there are sections for alcohol and other drug misuse, stressful events and personality difficulties.

The main computer diagnosis is derived using a hierarchical model and designed around ICD-10. The diagnostic program takes account of severity of symptoms (moderate to severe). It also generates alternative diagnosis based on presence of symptoms of other disorders.

The GMHAT/PC has been proved to be useful in various medical settings to the assessment of mental disorders and to calculate the prevalence of mental illness in somatic patients. One study carried out in India used the tool to diagnose psychiatric morbidity in chronic respiratory disorders (13). There have been also studies in other medical settings including cardiac and epileptic patients (14).

The diagnosis of comorbidity made by the GMHAT in different settings is shown in table 1.

Table 1. Mental health disorders in medical settings using GMHAT

GMHAT diagnosis %	Respiratory diseases (13)	Cardiac diseases (14)	Epilepsy
Anxiety	20.2	4.4	1.7
Depression	13.3	14.4	0.6

Psychosis	2	0.8	4.5
OCD	4.6	ND	1.7
Phobia	1.8	0.8	1.1
Personality disorder	1.5	ND	7.3
Hypochondriasis	0.8	ND	ND
Stress	0.3	0.8	ND
Organic	0.3	0.8	18
Alcohol abuse	ND	ND	2.3

Results

We aimed to interview at least 400 patients in order to get a sufficient number of participants in different subgroups of medical illness to reveal a meaningful psychiatric morbidity in this population. The sampling was a convenient one reflecting patients with medical, surgical or G/O disorders who sought a specialist's help in hospital as an inpatient. A total of 455 participants were interviewed using GMHAT/PC. Among patients 282 (61.98 %) were females and 173 (38.02%) were males.

Internal Medicine

The demographic data of the patients seen in the internal-medicine ward is given in the table 2.

Table 2. Demographic data of the patients seen in the internal-medicine

Gender	Males	Females
N (%)	82 (54.67%)	68 (45.33%)
Age mean	63.06	63.80
Range	18-88 years	19-94 years
Diagnosis of mental illness	4 (4.87%)	8 (11.76%)

Out of 150 patients interviewed, 12 (8%) had mental illness based on GMHAT/PC interview. The distribution of the diagnosis is given below:

Organic 3

Anxiety 3

Depression 3

Drug Abuse 2

Hypochondriasis 1

Of the three patients with organic diagnosis, two were women and one man. All of them were over the age of 70. The patients with anxiety were all women. Among patients with depression, two were women and one man. Both patients with drug misuse were men. One patient with hypochondriasis was a 20 year old woman.

Surgery

One hundred and fifty patients from surgical wards were interviewed using GMHAT/PC. The demographic data is given in the table 3.

Table 3. Demographic data of the patients seen in the surgery

Gender	Males	Females
N (%)	91 (60.67%)	59 (39.33%)
Age mean	40.98	51.64
Range	18-84 years	19-89 years
Diagnosis of mental illness	4 (4.39%)	6 (10.16%)

Ten of 150 patients (7%) had mental illness. The distribution of the psychiatric diagnosis is given below:

Depression 4

Organic 2

Drug abuse 2

Anxiety 1

OCD 1

Both cases of organic diagnosis were women over the age of 82. Three of the four patients with depression were women. Both patients with drug abuse were men. One women had anxiety disorder and one men had Obsessive Compulsive Disorder.

Obstetrics and Gynaecology

One hundred and fifty-five patients from Obstetrics and Gynaecology were interviewed using GMHAT/PC. Their age range was 14-74 with mean age 26. None of these women had any mental illness.

Mental illness and medical Diagnosis

The table 4 gives the psychiatric diagnosis in patients with their medical or surgical conditions for which they needed in patient care.

Table 4. Mental health diagnosis distribution of the patients with mental illness

Diagnosis	(n)	Associated diagnosis
Depression	7	Total gastrectomy, melanoma, leg ulcer, peritoneal carcinomatosis, myocardial infarction, rheumatoid arthritis, cervical cáncer
Mental organic disorder	5	Bowel obstruction, diverticulitis, stroke, prostate adenocarcinoma, urinary tract infection
Anxiety	4	Rectal tumor, ovarian cancer, cervix cancer, epigastric pain
Substance abuse	4	Foreign body, thoracostomy, 26% burns, cocaine Pneumopathy
Obsessive compulsive disorder	1	Esophageal Adenocarcinoma
Hypochondriasis	1	Thoracic pain

None of the detected cases by GMHAT/PC was previously identified by their respective services as suffering from mental illness.

Discussion

It was reassuring to find that GPs were easily trained for mental health interview using GMHAT/PC. GPs reported that they were motivated to use computers and the GMHAT in their future clinical assessments. The feedback of GP was positive after the study and it became a part of their routine practice to ask questions about mental health. This is also an opportunity of training staff in mental health through clinical tools, supporting by specialists.

Patients' experiences were positive too. They were reluctance at start, but changed their views after the interviews. They like that the questions cover all aspects of their mental health and not make them feel uncomfortable or judgemental about their private life.

This study shows that it was possible to carry out interviews in medical setting. Usually the lack of time is a reason to no realize assessments in medically ill patients. The Spanish validated version of the GMHAT indicates a mean time of 12.5 minutes to realize the interviews. Sometimes doctors are unfamiliar about the right questions to evaluate mental state and have lack of knowledge about the diagnostic criteria. The use of semi structured interviews like GMHAT could solve this problem. It's important that doctors have short and reliable tools like GMHAT that enable them to identify and manage patients with mental illness and could be used routinely in medical settings.

The GMHAT/PC is more close to identifying clinical cases of mental illness and also patients who need help. As was described in the discussion section, the GMHAT is more a diagnostic instrument than a screening instrument. It means that the probability of false positives is very low and doctors who use the GMHAT could be sure that those patients need immediate attention. Is important to note that none of the patients diagnosed by GMHAT were identified by the medical team, but they were given appropriate help, advice, and treatment.

In this study the proportion of medically ill with mental disorders was less compared to other studies. Some authors reported a range between 7% and 60% of psychiatrist's disorders in hospitalized patients (6, 7). In this study patients with mental illness do not exceed 8%. It could be explained by several reasons. The assessment methods used in previous studies include MMSE (Minimental State Examination), HADS (Hospital Anxiety and Depression Scale) and CAGE (1, 15). This are screening tools and could identify patients with symptoms but not necessary with disorders. Most of the previous studies focused on specific somatic diseases that are highly associated with mental disorders. For example, almost half of patients with asthma and chronic respiratory illness meet diagnostic criteria for a mental disorder (13, 16). The prevalence of mental health conditions in cancer patients in acute care is 32% (17). The prevalence of mental problems in arthritis is 29% for anxiety, and 26 % for depression (18). In this study, patients have a great variety of diagnosis. Some of them had serious diseases but most of them had physical problems not usually related with mental problems. In the group of surgery patients, 25% of patients had

diagnosis of acute appendicitis and hernias and none of them had a diagnosis of mental illness. In the G/O group, 73% of patients were hospitalized for vaginal and caesarean delivery and none of them had mental problems. In contrast, 20 of the 455 patients had cancer diagnosis and of them almost half have a psychiatric diagnosis.

The psychiatric comorbidity is often one of the most important indices of disability associated with the medical illness. Furthermore, the role of psychosocial and psychiatric interventions in the secondary and tertiary prevention, i.e. the prevention of the progression or recurrence of disease and prevention of complications, respectively, is also important (19). The medical conditions generally present with two features: they are often exacerbated by psychosocial stress; and they may be comorbid with major psychiatric syndromes such as depressive illness. Recognition of patients, who may be at a high risk of developing psychosocial and psychiatric comorbidity, is therefore an important component of the overall management of these patients (19). By making mental health treatment an integral part of general medical care, a higher percentage of those now untreated for their psychiatric disorders can have their mental health needs addressed in coordination with their physical disorders (20).

References

1. Schwartzmann L, Caporale B, Suárez A, Sancristóbal S. Incidencia de trastornos psíquicos en pacientes con enfermedades médicas: ¿qué hacer? Revista de Psiquiatría del Uruguay. 2003;67(1).
2. Yan ZY, Gu MJ, Zhong BL, Wang C, Tang HL, Ling YQ, et al. Prevalence, risk factors and recognition rates of depressive disorders among inpatients of tertiary general hospitals in Shanghai, China. J Psychosom Res. 2013;75(1):65-71.
3. Härter MC, Conway KP, Merikangas KR. Associations between anxiety disorders and physical illness. Eur Arch Psychiatry Clin Neurosci. 2003;253(6):313-20.
4. Härter M, Baumeister H, Reuter K, Jacobi F, Höfler M, Bengel J, et al. Increased 12-month prevalence rates of mental disorders in patients with chronic somatic diseases. Psychother Psychosom. 2007;76(6):354-60.
5. Hernández G, Ibáñez C, Kimelman M, Orellana G, Montino O, Núñez C. Prevalencia de trastornos siquiátricos en hombres y mujeres hospitalizados en un Servicio de MedicinaInterna de un hospital de Santiago de Chile. RevMedChile. 2001;129(11).
6. Franco J, Gómez P, Ocampo MV, Vargas A, Berríos D. Prevalencia de trastornos psiquiátricos en pacientes medicoquirúrgicos hospitalizados en la Clínica Universitaria Bolivariana de Medellín, Colombia. Revista Colombia Médica. 2005;36(4):8.
7. Kayhan F, Cıcek E, Uguz F, Karababa IF, Kucur R. Mood and anxiety disorders among inpatients of a university hospital in Turkey. Gen Hosp Psychiatry. 2013;35(4):417-22.
8. Restrepo D, Cardeño C, Páramo L, Ospina S, Calle J. Delírium: incidencia y características clínicas y epidemiológicas en un hospital universitario. Revista Colombiana de Psiquiatría. 2009;38(3).

9. Mogollón J, Jinete S, Moreno I, Álvarez M. Prevalencia de trastorno depresivo mayor en pacientes mayores de 50 años hospitalizados en un servicio de medicina interna. MedUNAB. 2005;8(1):4.
10. Castro Camacho L, Escobar JM, Sáenz Moncaleano C, Molano JC, Noguera E. Salud Mental en el hospital general: Resultados del Cuestionario de Salud del Paciente (PHQ) en cuatro servicios de atención. Revista Colombiana de Psiquiatría 2012:25.
11. Zhong BL, Chen HH, Zhang JF, Xu HM, Zhou C, Yang F, et al. Prevalence, correlates and recognition of depression among inpatients of general hospitals in Wuhan, China. Gen Hosp Psychiatry. 2010;32(3):268-75.
12. Campo A. Prevalencia de trastornos mentales en pacientes medicoquirúrgicos: ¿Son válidos los resultados? Colombia Médica. 2005;36(4):3.
13. Sharma BB, Singh S, Sharma VK, Choudhary M, Singh V, Lane S, et al. Psychiatric morbidity in chronic respiratory disorders in an Indian service using GMHAT/PC. General hospital psychiatry. 2013;35(1):39-44.
14. Krishna M, Lepping P, Sharma VK, Copeland JR, Lockwood L, Williams M. Epidemiological and clinical use of GMHAT-PC (Global Mental Health assessment tool - primary care) in cardiac patients. Clinical practice and epidemiology in mental health : CP & EMH. 2009;5:7.
15. Costas M, Prado V, Crespo JM. Ansiedad y depresión entre los pacientes hospitalizados en el complejo hospitalario de Ferrol. Cuadernos de Medicina Psicosomática y Psiquiatría de Enlace. 2013;107:7.
16. Goodwin RD, Hottinger K, Pena L, Chacko A, Feldman J, Wamboldt MZ, et al. Asthma and mental health among youth in high-risk service settings. J Asthma. 2014;51(6):639-44.
17. Singer S, Das-Munshi J, Brähler E. Prevalence of mental health conditions in cancer patients in acute care--a meta-analysis. Ann Oncol. 2010;21(5):925-30.
18. Wang KS, Liu X, Wang L. Associations of alcohol consumption and mental health with the prevalence of arthritis among US adults: data from the 2012 National Health Interview Survey. Rheumatol Int. 2014;34(9):1241-9.
19. Gupta MA, Gupta AK. Psychiatric and psychological co-morbidity in patients with dermatologic disorders: epidemiology and management. Am J Clin Dermatol. 2003;4(12):833-42.
20. Kathol RG, Clarke D. Rethinking the place of the psyche in health: toward the integration of health care systems. Aust N Z J Psychiatry. 2005;39(9):816-25.